

**SAS Superstructure**

Location: 04-SF-80-13.2 / 13.9

Client Name: CalTrans

Run date 22-Nov-14

Time 6:53 AM

Daily Diary Report by Bid Item

Contract No.: 04-0120F4

Diary #: 1213 Const Calendar Day: 786 Date: 30-Jul-2014 Wednesday

Inspector Name: Brignano, Bob Title: Transportation Engineer

Inspection Type:

Shift Hours: Break: Over Time:

Federal ID:

Location:

Reviewer: Schmitt, Alex Approved Date: Status: Submit

**04-0120F4
04-SF-80-13.2/13.9
Self-Anchored
Suspension Bridge****Weather**

Temperature 7 AM 12 PM 4PM

Precipitation Condition overcast early am, then clear

Working Day ☒ If no, explain:**Diary:**

Dispute

General Comments

CCO 314, SAMPLING AND TESTING A354 GRADE BD MATERIAL:



ABF Engineer Kelvin Chen is working part time in the field and office on CCO 314.

There is work in the field on setup of TR's 18 & 19. Crews at the Pier 7 warehouse are working an 8-hour shift 0600 through 1430. Working on the CCO operation today are Laborer Carlos (Pedro) Garcia (0600~0730 and 1130~1230), Ironworker Foreman (temporary foreman for today) Jared Garrett (~0800~1430, but also other work elsewhere briefly during this time, so about 5 hours on CCO 314), Operator John Sabatino (~0815~0830, ~1000~1015, ~1215~1230), and Operator Justin Garrett (~1000~1015). The non-CCO 314 operations elsewhere at the Pier 7 warehouse area at other times in the day are not covered by this diary. Note that several of ABF's ironworkers are working a nightshift tonight for work on the cable security gate (CCO 378), so there are fewer ironworkers than normal at the Pier 7 warehouse area to handle the other operations on site. This affects the availability of ironworkers for the CCO 314 test rig operations. This nightshift work is anticipated to last the remainder of the week.

The laborer starts the day cleaning the bearing surfaces of the spherical washers and spherical nuts that will be used on the jacking rods. Yesterday, he got about half done with cleaning the 5 spherical washers (4 needed at the 2 test rigs plus a spare) and didn't get to the spherical nuts. Between 0600 and ~0715, the remaining half of the 5 spherical washers and all 5 spherical nuts (4 needed at the 2 test rigs plus a spare) are cleaned. On the spherical washers, the bottom flat surface that will bear against a steel plate (either the end plate or the jacking beam) and the top spherical surface that the spherical nut will bear against are being cleaned. On the spherical nuts, the spherical bearing surfaces are being cleaned. These items are cleaned with a wire wheel brush.

After finishing work on the spherical washers and nuts at ~0715, the laborer cleans a portion of the TR 18 coupler with a wire wheel brush. This is where the CT-METS AE sensor will be attached, and this cleaning is so that CT-METS does not need to do much prep work in order to get a good epoxy bond for the AE sensor that will be applied soon (tentatively later today). This cleaning is only done today at TR 18, because it was done yesterday at TR 19. This work is complete ~0730, and then the laborer leaves the TR site.

In the morning, the ironworker does prep work on the traffic plates for the north and south ends of the test rigs. In the TR's 18 & 19 setups, the holes in the traffic plates for the eyebolts for the rigging will land on the k-rail. For work on TR's 5-11 and 12 & 13, ABF had to go through extra steps to set the plates on timber on top of the k-rail, loosen the nuts to remove the eyebolts, pick up corners of the plates with the forks of the forklifts, and lower the plates on the k-rail. Those were time consuming steps that were made



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more difficult by the close proximity of the BayView Trailer to the north of the test rigs. To make the future work of setting and removing the traffic plates faster and safer, new holes are drilled in the traffic plates so that the eyebolt locations will clear the k-rail locations. Getting setup for this drilling work starts about 0800. An operator moves the 7kW generator from near the test rigs to near the traffic plates to the south of the test rigs and the ironworker gets the mag drill and a drill bit. The existing holes in the traffic plates are 13/16" diameter for the 3/4" eyebolts, but the new holes are drilled 1-1/4" diameter because that is the best bit available – other available bits are dull or are too short to drill through the 2" thick plates. The larger diameter holes will still work with the eyebolts when a washer is added. Most of the holes are drilled by the lunch break at 1100. After the lunch break at 1130, the laborer arrives with a magnet to clean the steel shavings from the drilling operation. The laborer also does some other cleanup at the traffic plates – there is sand debris on the plates from broken sandbags. The ironworker drilling is complete about 1200 and the laborer cleanup is complete about 1230.

Between ~1215 and ~1230, the ironworker installs neoprene shims under the coupler in the test rigs. VGO is done rotating the rod at TR 19 and almost done rotating the rod at TR 18 at this time. Rotating the rod has the potential for the coupler to kick out the neoprene (friction effect), but we want the neoprene installed now because it involves picking up the rod to install it, and that is an issue if the AE sensor is installed on the top of the coupler with limited room between the coupler and the top of the test rig. The operation of installing the neoprene involves using the extendable forklift to pick up the rod/coupler and installing the multiple pieces of neoprene in the test rig. The main piece of neoprene is a large piece with a hole cut out for the location of the plug bolt in the bottom of the test rig – this was the plug bolt in the wet chambers that originally was intended as a master reference electrode, and these pre-cut pieces of neoprene were cut for use in TR's 8-11 and 12 & 13. Then, there are 6 smaller pieces of neoprene stacked 2 high and 3 deep to support the coupler at the correct height in the middle of the test rig. This operation also involves slightly rotating the TR 19 rod so that the top strain gauges are on top, shifting the rod/coupler to one side so it is centered horizontally, and pushing it in slightly so that the coupler is the proper depth back from the end plate. Note that later in the day, VGO rotates the TR 18 rod as expected, and also unexpectedly needs to rotate the TR 19 rod, with these operations kicking out the thin neoprene plies installed earlier. This will need to be corrected by ABF tomorrow.

After the work on the neoprene, the ironworker works with the hydraulic hoses, manifolds, and dial gauges. The pieces needed at TR's 18 & 19, plus some spare pieces are saved at the test rig site, but the other pieces that are not needed are returned to the warehouse – ABF has sold some of these parts and wants all pieces that are not needed at the test rigs to be returned from the test rig site so they can be sold.

Then the ironworker installs the spherical nuts and spherical washers at TR's 18 & 19 that go against the end plate. These are threaded a long distance (long threaded rod for jacking beam depth) with some minor threading issues, but the rods make it all the way to the final location against the north end plate without major difficulty. Occasionally the nuts need to be worked back and forth to get past a difficult spot. This work is between ~1300 and ~ 1330.

At the end of the day, the ironworker does some prep work for tomorrow's planned work to install the south end plates by moving the pallet with the 2 end plates from the area to the south of the test rigs to the immediate area where they will be installed. He also puts away all the tools used earlier in the day.

VGO continues work on site today. From VGO, Dave Van Dyke, Rob Rutledge, and Mattea start work on site at 0800. VGO takes lunch between 1200 and 1230. VGO starts by continuing strain gauge installation. Mattea continues installing strain gauges at TR 19, completing the last 2 of 8 strain gauges, completing this work later in the morning. Rob continues installing strain gauges at TR 18, and then is assisted by Mattea after she finishes work at TR 19, completing the last 6 of 8 strain gauges in the afternoon. Dave primarily works on the wire runs from the eDAQ to the test rigs. In the afternoon, VGO continues work on the strain gauges by doing additional QC checks – as the strain gauges are installed, some QC checks happen at that time and some happen later. Late in the afternoon, VGO has an issue with some of the TR 19 strain gauges and needs to rotate the rod for access after they were supposed to be done rotating the rod (neoprene shims already installed). By the end of the shift, VGO is done rotating

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both rods, so the CT-METS AE sensors can then be installed on the couplers – cannot install until VGO is no longer rotating the rod so the sensor will not hit the neoprene shims as the coupler is rotated with the rod. VGO leaves the site at 1630.

Starting after 1700, CT-METS Elijah Turner works on the AE sensors on the couplers at TR's 18 & 19 after VGO leaves for the day. He epoxies an AE sensor on each coupler. While the epoxy cures, the sensor is held steady a large rubber band. He also installs the wires from the AE sensors to the data logger, running the wires along the k-rail, crane mats, etc. Note that these are only half of the AE sensors with the AE sensors to be installed – the AE sensors on the stickout end of each rod cannot be installed until after the end plates are installed tomorrow.

A 7kW generator – Whisperwatt 7000 – ABF ID 002343 is used at times by the laborer and ironworker and is on idle/standby at the test rig work area the remainder of the day. A 40kW generator – MQ Power 40 – ABF ID 002051 is on idle/standby at the test rig work area. A Hydraulic Pump for running the jacks is on idle/standby at the test rig work area. An oxyacetylene torch is on idle/standby at the test rig work area. Various forklifts are used at the test rigs at different times – ABF's Hyster 155 forklift (ABF ID 002375), Hyster 80 forklift (ABF ID 002306), Hoist P360 forklift (ABF ID 002131), and extendable forklift (Gradall 544D - ABF ID 002005). A Kubota Cart is used by the laborer at the test rig work area, and a second Kubota Cart is used by the ironworker at the test rig work area.

Note that there is k-rail at this work area. All the remaining k-rail at the CCO 314 test rig site is State owned. There are 20 pieces of 10' bought k-rail. Only some of this k-rail is currently in a test rig setup (8 pieces installed) with the remaining k-rail at the test rig site awaiting use (8 pieces) in the new test rigs (TR's 18 & 19) or will be spare/extra k-rail (4 pieces).

To elevate k-rail and sandbags, crane mats (built from 12x12's) and timber blocking (12x12's) are used. The crane mat and 12x12's quantities are as follows:

1 each 4'x20' crane mat (1 x 80 LF)
1 each 5'x19' crane mat (1 x 95 LF)
2 each 5'x20' crane mats (2 x 100 LF)
~4x2x4 = 32 LF additional 12x12's
Total 12x12's quantity = 407 LF

The agreed extra work with ABF is as follows:

Laborer Carlos (Pedro) Garcia - 2 hrs

Ironworker Foreman Jared Garrett - 5 hrs

Operator John Sabatino - 1 hr

Extendable Forklift - 2 hrs

7kW Generator - 4 hrs

12x12 timber - 380 LF

See the attached Extra Work Order - Signed with ABF for CCO 314 work

CCO 376 PWS ANCHOR ROD ADJUSTMENT – BOLTIGHT LOAD VERIFICATION TESTING:

There is work in the warehouse today to setup and prepare for the Boltight load verification with Translab tomorrow. Ironworkers Ricky Damboise and Jared Garrett are working on this for parts of today, along with Laborer Foreman Ignacio (Nacho) Garcia and operator Justin Garrett. Because of this work, ironworker Jared Garrett is not able to spend all day on CCO 314 operations. The CCO 376 work is inspected by others.

INSPECTOR OT REMARK:

Field and Office 2 hours: ABF's shift is 0600 to 1430. VGO's shift is 0800 to 1630. I am in the field for ABF's work most of the time between 0600 and 1430. I am also in the field later in the day when VGO is



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working. I am also assisting CT-METS and the DJV with various requested info on A354 Grade BD bolts and rods late in the day. My shift is 0600 to 1630, with the OT between 1430 and 1630.